PABLO D. PUSIOL

Alta Gracia, Cordoba, Argentina (X5186DVD)
Citizenship: (double) Italian / Argentine.
pablo.pusiol@gmail.com - mobile: +54 9 (351) 6227364

ACADEMICS

M. Sc. in Computer Science (2012 - 2014). (2 yrs. program degree as Licenciado)
- Institution: FaMAF – UNC (School of Mathematics, Astronomy and Physics, National University of Crdoba)
- Curriculum focus: Remote sensing and satellite imagery processing in collaboration with CONAE, advanced computer vision techniques, and machine learning applications.
- Thesis (March 2014): Deep Learning for Scene Semantics and Activity Recognition in Sports applied convolutional neural networks to tennis broadcast footage to automatically extract and classify semantic events. Reference. **Keywords:** Machine Learning, Deep Learning, CNNs. *Advisors:* Guido T. Pusiol, PhD (Stanford, US) and Daniel E. Fridlender, PhD (FaMAF–UNC, AR).
- *Average 7.77 / 10.00 - Thesis 10.00 / 10.00*

B. Sc. in Computer Science (2009 - 2011). (3 yrs. program bachelor).
- Affiliation: FaMAF - UNC (School of Mathematics, Astronomy and Physics - National University of Cordoba)
- *Average 7.77 / 10.00*

PROFESSIONAL EXPERIENCE

Spinlock SRL - Cordoba AR   (May 2017 - Present)
New Technologies Director

· Designed and implemented 1D CNNs for inline haploid/diploid corn classification using Spinlocks state-of-the-art inline NMR sensor for single-seed analysis (up to 70K samples/h).

· Technical direction of all user and research applications for Spinlock products. Relevant technologies include: C#, Python, TensorFlow, PyTorch, and .NET Framework.

· Leading Noctua, an Edge AI spinoff integrating thermal sensors and advanced AI for early fall detection and cognitive decline monitoring in elder care. Currently under consideration by three major University Hospitals in Crdoba, Buenos Aires, and Catalunya. (https://datarock.ai).

· Developed an in-line NMR Spectrometer for non-stop measurement of nutritional facts in a food factory. Deployed in Houston, TX for a leading snack manufacturer. Link to media (Spanish).

· Developed a novel method for auto-calibration of NMR signals for oil flow and cut sensors using Deep Learning style-transfer algorithms. Oral presentation at 3 Jornadas de Integrando el Mundo Fsico y el Digital 2019 - (IAPG), Buenos Aires.

Activity Recognition Inc. - Mountain View, CA   (January 2015 - April 2017)
Machine Learning Enginer - Colead - Cofounder

· Design, development, deployment of a web-based engine for healthcare service recommendations and prognosis on elders. This engine is first-of-its-class, and being deployed in several Japanese cities in association with one of the largest Japanese health services provider (http://activityrecognition.com).

· Design, development, deployment of an end-to-end solution for elders monitoring and alarm triggering at home and nursing-care facilities using deep learning algorithms in Far Infrared sensors feed. App Thermix available at the App Store, data at http://thermset.activityrecognition.com. This project won Best overall and best software at FLIR Bring the Heat San Francisco 2015 (Link to media).

· Design, development and deployment of an automatic video editing social network using Deep Learning. App is free in the App Store under VDO. **Technologies:** Objective-C mainly, some Python/Django.

· Design, development and deployment of a mobile photo app for automatic selection of best pictures using Deep Learning. App is free in the App Store under Bestie. Using quantization, Bestie was one of the first apps to run locally (iPhone 4) Convolutional Neural Network forward passes of large models (Comparable with AlexNet). **Technologies:** Objective-C mainly, Libccv and C.

INRIA - Nice, France   (April 2014 - October 2014)
Research Intern

· Detecting people in RGB-D data for long term people tracking and events detection using Deep Learning, in the French Institute for Computer Science Research (INRIA). Contribuing to Dem@care (EU joint project for healthcare long term analysis) and Toyota Research Japan.

Spinlock SRL   (2012 - 2013)
Scientific Programmer

· Designed, implemented and tested a self-contained anti-piracy library/protocol for Windows Applications, currently being used in Spinlock's software. The protocol is based on AES and md5 hashing cryptography techniques. (C#)
· Designed, implemented and tested a self-contained protocol for auto-discovery of devices and results transmission in an Enterprise network environment, using network and application layer protocols. (C#,C/C++)
· Implemented and migrated the USER APPLICATION of NMR Spectrometers from Parallel/Serial interface to USB. (C#,C/C++)
· Designed several Process control and Quality Control applications for company use.
· Worked in the design team of the new user application of Spinlock's NMR spectrometers (NMR4) backend with novel Pulsed Excitation console.

R&D Intern

· Worked on a team which maintained the USER APPLICATIONS currently provided by Spinlock's NMR spectrometers for the determination of the contents of Oil, Moisture and Fatty Acids in food. (C#)
· Worked on a team which designed and developed SCIENTIFIC APPLICATIONS for NMR Flow Meters and a Flow Loop operation. (C#)
· Implemented Information Security policies and infrastructure for the company. (Windows Server, C#)

ONLINE COURSES

Deep Learning Specialization   Coursera - deeplearning.ai
by Andrew Ng

· The Deep Learning Specialization is designed to prepare learners to participate in the development of cutting-edge AI technology, and to understand the capability, the challenges, and the consequences of the rise of deep learning. Through five interconnected courses, learners develop a profound knowledge of the hottest AI algorithms, mastering deep learning from its foundations (neural networks)

to its industry applications (Computer Vision, Natural Language Processing, Speech Recognition, etc.). [Link to Certificate](#).

Machine Learning Coursera - Stanford University
by Andrew Ng

· This course is about 10 weeks long, and it covers different supervised and unsupervised learning algorithms, from the mathematical foundations to matlab implementations of learning and application of them. **Keywords:** Linear Regression, Logistic Regression, Neural Networks, Clustering, SVM .

Introduction to Recommender Systems Coursera - University of Minnesota
by Joseph A Konstan, Michael D Ekstrand

· This course is fourteen weeks long, and it is structured into eight modules. **Keywords:** Non-personalized recommendations, Content-Based-Recommendations, TFIDF, Vector Based Models